

What is claimed is:

1. An image forming apparatus, comprising:

a rotary member capable of carrying an image recording material on its surface;

a rotary brush which rubs and slides on the surface of the rotary member; and

a controller which controls operation of the rotary brush; wherein, the controller operates in two control modes, a first mode for active rotation of the rotary brush and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member, and the amount of push p for pressing the rotary brush against the rotary member satisfies the following condition (1),

$$0.1 \text{ mm} \leq p \leq 2.0 \text{ mm} \dots (1).$$

2. The image forming apparatus as claimed in Claim 1, wherein the controller executes the first mode before the cumulative number of rotations of the rotary brush in the second mode exceeds a prescribed number of rotations.

3. The image forming apparatus as claimed in Claim 1, wherein a prescribed voltage is applied to the rotary brush at least in the second mode.

4. The image forming apparatus as claimed in Claim 1, wherein the peripheral velocity of the rotary brush is different from that of the rotary member in the first mode.

5. The image forming apparatus as claimed in Claim 1, wherein the rotary member is an photosensitive image carrier.

6. The image forming apparatus as claimed in Claim 1, wherein the rotary member is an intermediate transfer medium.

7. The image forming apparatus as claimed in Claim 1, wherein the rotary brush is an charging brush for electrically charging a rotary member.

8. The image forming apparatus as claimed in Claim 1, wherein the rotary brush is a cleaning brush for cleaning a rotary member.

9. An image forming apparatus, comprising:

 a rotary member capable of carrying an image recording material on its surface;

 a rotary brush which rubs and slides on the surface

of the rotary member; and

a controller which controls operation of the rotary brush;

wherein, the controller operates in two control modes, a first mode for active rotation of the rotary brush and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member, and nip width n in the area of contact between the rotary brush and the rotary member satisfies the following condition (2),

$$2.0 \text{ mm} \leq n \leq 10.0 \text{ mm} \dots (2).$$

10. The image forming apparatus as claimed in Claim 9, wherein the controller executes the first mode before the cumulative

number of rotations of the rotary brush in the second mode exceeds a prescribed number of rotations.

11. The image forming apparatus as claimed in Claim 9, wherein a prescribed voltage is applied to the rotary brush at least in the second mode.

12. The image forming apparatus as claimed in Claim 9, wherein the peripheral velocity of the rotary brush is different from that of the rotary member in the first mode.

13. The image forming apparatus as claimed in Claim 9, wherein the rotary member is an photosensitive image carrier.

14. The image forming apparatus as claimed in Claim 9, wherein the rotary member is an intermediate transfer medium.

15. The image forming apparatus as claimed in Claim 9, wherein the rotary brush is an charging brush for electrically charging a rotary member.

16. The image forming apparatus as claimed in Claim 9, wherein the rotary brush is a cleaning brush for cleaning a rotary member.

17. An image forming apparatus, comprising:

 a rotary member capable of carrying an image recording material on its surface;

 a rotary brush which rubs and slides on the surface of the rotary member; and

 a controller which controls operation of the rotary brush;

wherein, the controller operates in two control modes, a first mode for active rotation of the rotary brush and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member, and the controller executes the first mode before the cumulative number of rotations of the rotary brush in the second mode exceeds a prescribed number of rotations.

18. An image forming apparatus, comprising:

a rotary member capable of carrying an image recording material on its surface; and

a rotary brush which rubs and slides on the surface of the rotary member;

wherein, the amount of push p for pressing the rotary brush against the rotary member satisfies the following condition (1) and nip width n in the area of contact between the rotary brush and the rotary member satisfies the following condition (2),

$$0.1 \text{ mm} \leq p \leq 2.0 \text{ mm} \dots (1)$$

$$2.0 \text{ mm} \leq n \leq 10.0 \text{ mm} \dots (2).$$

19. The image forming apparatus as claimed in Claim 18, further comprising:

a controller which controls operation of the rotary

brush, wherein the controller operates in two control modes, a first mode for active rotation of the rotary brush and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member.

20. An image forming apparatus having a plurality of components each of which providing a developing device, a photosensitive image carrier on which an image is formed by the developing device and a rotary brush which rubs and slides on the surface of the photosensitive image carrier, comprising:

a controller which controls operation of each rotary brush;

wherein, the controller operates in two control modes, a first mode for active rotation of the rotary brush and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member.

21. The image forming apparatus as claimed in Claim 20, wherein the controller executes the first mode before the cumulative number of rotations of the rotary brushes of the plural components in the second mode exceeds a prescribed number of rotations.

22. The image forming apparatus as claimed in Claim 20, wherein the amount of push p for pressing the rotary brush against the rotary member satisfies the following condition (1),

$$0.1 \text{ mm} \leq p \leq 2.0 \text{ mm} \dots (1).$$

23. The image forming apparatus as claimed in Claim 20, wherein nip width n in the area of contact between the rotary brush and the rotary member satisfies the following condition (2),

$$2.0 \text{ mm} \leq n \leq 10.0 \text{ mm} \dots (2).$$

24. The image forming apparatus as claimed in Claim 20, wherein when only a specific component among the plural components makes an image and the other components do not make images, the controller controls the apparatus so as to execute the second mode for the rotary brushes of the other components.

25. The image forming apparatus as claimed in Claim 20, wherein the rotary brush is an charging brush for electrically charging an photosensitive image carrier.

26. The image forming apparatus as claimed in Claim 20,

wherein the rotary brush is a cleaning brush for cleaning
an photosensitive image carrier.